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January 24, 1958

Dr. Arthur Kornberg
Department of Microbiology
Washington University
School of Medicine
Euclid Avenue and Kingshighway
Saint Louis, Missouri

Dear Doctor Kornberg:

The manuscripts entitled, Enzymatic synthesis of deoxyribonucleic acid.

I. Preparation of substrates and partial purification of an enzyme from Escherichia coli, by Lehman, Bessman, Simms and Kornberg, and

II. General properties of the reaction, by Bessman, Lehman, Simms, and Kornberg,

have been reviewed by two additional Editors and three additional referees. It is regretted that this second review, as the first, has taken so long to accomplish. These delays reflect no lack of diligence on the part of the several reviewers but are more properly attributed to the significance attached to the papers by all who have read them and to their necessary length. Neither significance nor interest of these papers has been questioned by any reviewer, nor should it be inferred that the Journal has expressed disinterest in publishing them.

The opinions expressed by the second reviewers (specific suggestions follow) parallel in essence those expressed in our letter of December 5, particularly in its first paragraph. The common reaction has been that the tenor of the presentation is not substantiated by evidence recorded in these manuscripts or elsewhere and that a more conservative presentation of the results would be desirable. It has been suggested that the series be entitled, "Studies on the enzymatic synthesis..."; that the term "polydeoxyribonucleotide" be used throughout; that the statements regarding DNA synthesis are too emphatic inasmuch as no experimental evidence is here presented to prove the presence of DNA molecules not previously added as primer.

Specific suggestions are:

Paper I. The second paragraph of the introduction would reflect the results more accurately if it stated "Earlier reports briefly described an enzyme system, etc., which catalyzes the incorporation of deoxyribonucleotides into DNA." Then "for DNA synthesis" on line 5 could be deleted. On page 3, line 2, the words "deoxyribonucleotide incorporation" might be substituted for "DNA synthesis". On page 32, the first two paragraphs of discussion do not appear pertinent to a paper on preparative methods, but should appear in Paper II, where evidence for a small net synthesis of DNA is presented, or in a later paper. The first paragraph of the summary might be modified as follows: "An enzyme which catalyzes the incorporation of deoxyribonucleotides from the triphosphates of the four deoxynucleosides has been purified from cell-free extracts of E. coli in excess of 2000-fold. The reaction requires the presence of polymerized deoxyribonucleic acid and Mg^{++} ."

Paper II. The first sentence of the introduction might be replaced by the following: "In the foregoing paper (I), a procedure is described to purify an enzyme ('polymerase') from E. coli that catalyzes the incorporation of deoxyribonucleotides from deoxyribonucleoside triphosphates into DNA."

These suggestions and comments have been made by the various reviewers (Editors and referees) and, as with the first set, are passed on to the authors for their consideration. It is not now, nor was it earlier, the desire of the Journal to dictate terms of acceptance, but certainly it would have been remiss in its duty to the authors and to its reviewers alike had it failed to transmit the comments received and to ask for their consideration. The reviewing procedure constitutes a preview of informed reader opinion obtainable in no other way.

The Editors will be pleased to receive these manuscripts subsequent to consideration of the above by the authors.

The Editors

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Enclosures:

Paper I: 45 MS pp.
II: 34 MS pp. + 3 cts.